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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,232	07/07/2003	James F. Ziech	1-16143	6171

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Attn: Stephen P. Evans, Esq.
Marshall & Melhorn, LLC
Eighth Floor
Four SeaGate
Toledo, OH 43604

EXAMINER

ENGLISH, PETER C

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,232

Applicant(s)

ZIECH ET AL.

Examiner

Peter C. English

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9 and 11-18 is/are rejected.
- 7) ☒ Claim(s) 7 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20031008; 20040413.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because:
 - In Fig. 1, the upper occurrence of “20” should be “38”.
 - In Fig. 1, the lower occurrence of “20” should be “58”.
 - In Fig. 1, the right-hand occurrence of “22” should be “20”.
 - In Fig. 1, the right-hand occurrence of “30” and its lead line should be deleted.
 - In Fig. 2, the lead line for reference number 50 should be directed to the attachment portion of the bracket 38. Currently the lead line is directed to the pivot pin 80.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to because:
 - At page 4, lines 7 and 13, “20 cylindrical portion” should be “cylindrical portion 20”.
 - At page 4, lines 8 and 14, “22 cylindrical portion” should be “cylindrical portion 22”.
 - At page 4, line 10, “knuckle” should be inserted before “24”.
 - At page 4, line 10, “20” should be deleted.
 - At page 4, line 11, “22 cylindrical portions” should be “cylindrical portions 20 and 22”.
 - At page 5, line 2, “an link air leaf” is grammatically incorrect and not understood.
 - At page 6, line 1, “38” should be “76”.
 - At page 6, line 4, “76” should be “38”.

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At page 6, line 5, "allow" should be "allows".

At page 7, line 18, "beam axle 16" should be "axle beam 12".

At page 8, line 9, "beam axle" should be "axle beam".

At page 8, line 21, "12" should be "14".

Appropriate correction is required.

Claim Objections

4. Claims 5-7, 10, 11 and 17 are objected to because:

In claim 5, at line 2, "bracket and a" should be "bracket, a".

In claim 5, at lines 2-3, "beam axle" should be "axle beam".

In claim 17, at line 6, the second occurrence of "axle" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claims 12-14 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, at line 2, "the vertical axis" lacks proper antecedent basis.

In claim 13, at lines 1-2, "is located to maximize the perpendicular distance" is indefinite because the scope of this recitation cannot be defined with any degree of clarity. The definition of "located to maximize" is relative, i.e., it will vary from application to application and from person to person.

In claim 14, at lines 1-2, "said axle" lacks proper antecedent basis. The examiner suggests: at line 2, insert "beam" after "axle".

In claim 18, at line 6, "said at least one dampening structure" lacks proper antecedent basis. The examiner suggests: at line 6, change "dampening structure" to "shock absorber".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-6, 8, 9, 11-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over La Rock, Jr. (US 3,512,802) in view of Porsche et al. (US 2,756,067). La Rock, Jr. discloses a suspension system comprising: a steer axle beam 11; knuckles (see Figs. 2 and 4) secured to the ends of the axle beam 11 by king pins (see Fig. 4), the knuckles having steer arms (see Fig. 4) connected to a tie rod 24; shock absorbers 29 having inboard ends pivotally mounted to frame rails 14 and outboard ends pivotally mounted to the axle beam 11 adjacent the king pins (see Figs. 2 and 4); and air springs 18 extending between the axle beam 11 and the frame rails 14. As shown in Fig. 2, the shock absorbers 29 are inclined inwardly.

La Rock, Jr. lacks shock absorbers having outboard ends pivotally mounted to the king pins. Porsche et al. teaches a suspension system comprising: a king pin 3 rotatably supporting a knuckle 2'; a bracket 10, 16 secured to the upper end of the king pin 3; a bracket 12 secured to the lower end of the king pin 3; and a shock absorber 22 pivotally mounted to the upper king pin bracket 10, 16. From this teaching of Porsche et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify La Rock, Jr. by pivotally mounting the outboard ends of the shock absorbers to brackets secured to the upper ends of the king pins because this helps to counter transverse forces acting on the wheels (see Porsche et al.,

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column 1, lines 41-46). Further, this simplifies manufacture of the axle beam since no shock absorber mounting structures need to be built into the axle beam.

9. Claims 1-4, 8, 9, 12 and 16-18 are rejected under 35 U.S.C. 103(a) as being obvious over La Rock, Jr. (US 3,512,802) in view of Ziech et al. (US 6,866,277). La Rock, Jr. discloses a suspension system comprising: a steer axle beam 11; knuckles (see Figs. 2 and 4) secured to the ends of the axle beam 11 by king pins (see Fig. 4), the knuckles having steer arms (see Fig. 4) connected to a tie rod 24; shock absorbers 29 having inboard ends pivotally mounted to frame rails 14 and outboard ends pivotally mounted to the axle beam 11 adjacent the king pins (see Figs. 2 and 4); and air springs 18 extending between the axle beam 11 and the frame rails 14. As shown in Fig. 2, the shock absorbers 29 are inclined inwardly.

La Rock, Jr. lacks shock absorbers having outboard ends pivotally mounted to the king pins. Ziech et al. teaches a suspension system comprising: a king pin 50 rotatably supporting a knuckle 52; a bracket 64 secured to the upper end of the king pin 50; and a shock absorber 110 pivotally mounted to the upper king pin bracket 64. From this teaching of Ziech et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify La Rock, Jr. by pivotally mounting the outboard ends of the shock absorbers to brackets secured to the upper ends of the king pins because this increases the roll stiffness of the suspension system (see the abstract of Ziech et al.). Further, this simplifies manufacture of the axle beam since no shock absorber mounting structures need to be built into the axle beam.

The applied reference (Ziech et al.) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a

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terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over La Rock, Jr. in view of Porsche et al. or Ziech et al. as applied to claim 1 above, and further in view of Tomida et al. (US 4,951,962). The La Rock, Jr. and Porsche et al./Ziech et al. combination lacks a torsion tube connected to the axle beam. Tomida et al. teaches a torsion bar 4 connected to an axle beam 1. From this teaching of Tomida et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify La Rock, Jr. by providing a torsion bar connected to the axle beam in order to resist twisting of the axle beam. Further, it would have been obvious to replace Tomida et al.'s torsion "bar" with a torsion "tube" in order to reduce the weight of the assembly. Further, the selection of a tube or bar is considered to be an obvious matter of design choice.

Allowable Subject Matter

11. Claims 7 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lolley and JP 10181322 teach shock absorbers secured to axle beams adjacent king


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pins. Ulrich teaches a coil spring secured to a king pin. Warinner et al. teaches a steer axle suspension system. Raidel teaches an air spring suspension system.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter C. English whose telephone number is 571-272-6671. The examiner can normally be reached on Monday through Thursday (7:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Peter C. English 4/18/05
Primary Examiner
Art Unit 3616

pe
18 April 2005